Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

Claim 1 (original): A method for convection enhanced delivery of a therapeutic agent to a target tissue in a subject's body, comprising:

providing a solution comprising the therapeutic agent and a tracer;

delivering the solution to the target tissue by convective interstitial infusion; and

monitoring a distribution of the solution during delivery by imaging the tracer in the solution.

Claim 2 (original): The method of claim 1, further comprising ceasing delivery of the solution to the target tissue when the solution is distributed in a predetermined volume as indicated by the image of the tracer.

Claim 3 (original): The method of claim 2, wherein delivery of the solution is delivered substantially only to the target tissue.

Claim 4 (original): The method of claim 1, wherein monitoring the distribution of the solution and imaging the tracer comprises performing MRI or CT.

Claim 5 (original): The method of claim 4, wherein the tracer comprises a metal chelate of a paramagnetic metal ion.

Claim 6 (original): The method of claim 5, wherein the tracer comprises the metal chelate conjugated to the therapeutic agent.

Claim 7 (original): The method of claim 6, wherein the tracer comprises the metal chelate conjugated to a carrier molecule.

Claim 8 (original): The method of claim 7, wherein the carrier molecule comprises a protein.

Claim 9 (original): The method of claim 8, wherein the protein comprises a serum albumin.

Claim 10 (original): The method of claim 9, wherein the serum albumin is conjugated to one or more 1B4M chelates of gadolinium (III) ion.

Claim 11 (original): The method of claim 7, wherein the carrier molecule comprises a dendrimer.

Claim 12 (original): The method of claim 11, wherein the dendrimer is selected from the group consisting of polyalkyelenimine dendrimers and polyamidoamine dendrimers.

Claim 13 (original): The method of claim 6, wherein the tracer is chosen to have a mobility in the solid tissue that is substantially similar to the therapeutic agent.

Claim 14 (original): The method of claim 4, wherein the tracer comprises an iodinated CT contrast agent.

Claim 15 (original): The method of claim 14, wherein the tracer comprises iopanoic acid or iopamidol.

Claim 16 (original): The method of claim 1, wherein the tracer comprises an X-ray contrast moiety conjugated to the therapeutic agent.

Claim 17 (original): The method of claim 1, wherein the tracer comprises an X-ray contrast agent moiety conjugated to a carrier molecule.

Claim 18 (original): The method of claim 17, wherein the carrier molecule comprises a protein.

Claim 19 (original): The method of claim 17, wherein the carrier molecule comprises a dendrimer.

Claim 20 (original): The method of claim 2, further comprising calculating a correlation between a volume of distribution obtained from the image of the tracer and a volume of distribution for the therapeutic agent, and using the image of the tracer and the correlation to determine whether the therapeutic agent has filled the predetermined volume.

Claim ~~22~~ 21 (currently amended): The method of claim 1, further comprising detecting undesired flow of the solution and altering the flow if undesired flow is detected.

Claim ~~23~~ 22 (currently amended): The method of claim ~~22~~ 21, wherein the undesired flow comprises backflow along a cannula used to deliver the solution, and further comprising repositioning the cannula or reducing a flow rate used to deliver the solution if backflow is detected.

Claim ~~24~~ 23 (currently amended): The method of claim 1, wherein delivering the solution comprises infusing the target tissue with the solution at a rate between 0.1 μL/min and 15 μL/min.

Claim ~~25~~ 24 (currently amended): The method of claim 1, wherein monitoring further comprises measuring a signal intensity of the tracer in the target tissue and using the signal intensity of the tracer to calculate a concentration of the therapeutic agent in the target tissue.

Claim ~~26~~ 25 (currently amended): The method of claim 1, wherein the target tissue is located in the brain.

Claim ~~27~~ 26 (currently amended): A method for convection enhanced delivery of a therapeutic agent to substantially only a target tissue, comprising:

delivering a solution to the target tissue by convective interstitial infusion, the solution comprising the therapeutic agent and a tracer;

monitoring a distribution of the tracer by MRI or CT as it moves through the target tissue; and

ceasing delivery of the solution to the target tissue when the distribution of the tracer corresponds to substantially only the target tissue.

Claim ~~28~~ 27 (currently amended): The method of claim ~~27~~ 26, wherein the tracer has a mobility in the target tissue that is substantially similar to the mobility of the therapeutic agent.

Claim ~~29~~ 28 (currently amended): The method of claim ~~27~~ 26, wherein the tracer comprises the therapeutic agent conjugated to an imaging moiety.

Claim ~~30~~ 29 (currently amended): The method of claim ~~27~~ 26, wherein monitoring further comprises calculating a concentration of the tracer from an image of the tracer and correlating the concentration of the tracer to a concentration of the therapeutic agent delivered to the target tissue.

Claim 30 (original): A kit, comprising:
a tracer; and
instructions for performing the method of claim 1.

Claim 31 (original): The kit of claim 30, wherein the tracer comprises an albumin conjugated to iopanoic acid.

Claim 32 (original): The kit of claim 30, wherein the tracer comprises an albumin conjugated to Gd-1B4M.

Claim 33 (original): The kit of claim 30, wherein the tracer comprises iopamidol.

Claim 34 (original): The kit of claim 30, wherein the tracer comprises a dendrimer conjugated to Gd-1B4M.

Claims 35-37 (canceled).